DEPARTMENT OF THE ARMY
OFFICE OF THE PROGRAM EXECUTIVE OFFICER
STANDARD ARMY MANAGEMENT INFORMATION SYSTEMS
(PEO STAMIS)
[redacted]
FORT BELVOIR, VIRGINIA [redacted]
REPLY TO
ATTENTION OF

SFAE-PS 12 April 2000

MEMORANDUM THRU DIRECTOR OF INFORMATION SYSTEMS FOR COMMAND, CONTROL, COMMUNICATIONS AND COMPUTERS (DISC4), 107 ARMY, PENTAGON, WASHINGTON, DC 20310-0107

FOR DEPUTY ASSISTANT SECRETARY OF DEFENSE (COMMAND, CONTROL, COMMUNICATIONS AND INTELLIGENCE), 6000 DEFENSE PENTAGON, WASHINGTON, DC 20301-6000

SUBJECT: Transportation Coordinators Automated Information for Movement System (TC-AIMS II)

1. Enclosed is the TC-AIMS II Acquisition Strategy for your review and approval. The Acquisition Strategy has been developed to provide the best solution for meeting the functional requirements of developing and fielding the TC-AIMS II program. The strategy conforms to current DoD directives and guidance for management of software intensive programs.

2. The PEO STAMIS point of contact for this action is Ms. Betty Revelle, 703-806-3632.

Encl

KEVIN CARROLL
Program Executive Officer

ACQUISITION STRATEGY

PROGRAM: Transportation Coordinators' Automated Information for Movement Systems II (TC-AIMS II).

PROGRAM MANAGER: LTC (P) Jacob N. Haynes

PROGRAM ACAT: 1AM

OMA PE 432612

RDTE 665013137

OPA SSN BE 4166

OPERATIONAL REQUIREMENT: Operational Requirement Document for TC-AIMS II March 1999

This acquisition strategy revises the strategy outlined during the December 1996 working level Overarching Integrated Product Team (OIPT). The December 1996 working level OIPT resulted in Program Initiation as documented in the January 1997 Acquisition Decision Memorandum (ADM). It incorporates the results of the USD(A&T) directed program assessment presented to the DUSD(L) in December 1999. The Department of Defense (DOD) requires an automated capability to provide accurate and timely requirements and real-time visibility of movements to support deployment, redeployment, and sustainment of US Forces. The Transportation Coordinators' - Automated Information for Movement System II (TC-AIMS II) will be used by transportation agents and deploying units of each Service and other agencies to automate the processes of planning, organizing, coordinating, and controlling deployment, redeployment, and sustainment activities worldwide, in peace as well as during contingencies. It will provide a modernized, integrated, and easily deployable Automated Information System (AIS) that supports re-engineered functional processes throughout DOD. TC-AIMS II will link all DOD Component unit movement and Installation Transportation Office/Traffic Management Office (ITO/TMO) functionality into one consolidated, integrated, easily deployable, transportation management system.

PROGRAM MANAGER: _____ DATE: 11 Apr 00

PROGRAM EXECUTIVE OFFICER FOR STANDARD ARMY MANAGEMENT INFORMATION SYSTEMS: _____ DATE: 4/12/00

PART 1

EXECUTIVE SUMMARY

PROGRAM: Transportation Coordinators' - Automated Information for Movement Systems II (TC-AIMS II).

PROGRAM MANAGER: LTC (P) Jacob Haynes

ACQUISITION OFFICE: Office of the Program Executive Officer, Standard Army Management Information Systems (PEO STAMIS)

1.1. System Description. TC-AIMS II automates the processes of planning, organizing, coordinating, and controlling unit-related deployments, sustainment, day-to-day Installation Transportation Officer/Transportation Management Officer (ITO/TMO) operations, redeployment, and retrograde operations in support of the Defense Transportation System (DTS). It will interface with installation, unit and depot-level supply systems, the Global Transportation Network (GTN), Joint Operational Planning and Execution System (JOPES) through the use of the Joint Force Requirements Generator II (JFRG II); and will be capable of supporting both peacetime and wartime requirements. TC-AIMS II will produce movement documentation and unit move information. It will furnish timely information to major commands (MAJCOMs/MACOMs), Transportation Component Commands (TCCs), USTRANSCOM, and the Joint Deployment Community. As a DOD source movement information system, TC-AIMS II will be a primary source of information for in-transit visibility and transportation management over cargo and passenger movement during peace, operations other than war, and war. TC-AIMS II will integrate the functionality of selected Service-unique transportation legacy systems into a single AIS migration system. It will consist of a scaleable, deployable, distributed system environment, compliant with the Joint Technical Architecture (JTA), and Defense Information Infrastructure (DII)/Common Operating Environment (COE).

1.2. Requirements: TC-AIMS II requirements are documented in the August 1997 Mission Need Statement (MNS) and the March 1999 Operational Requirements Document (ORD). TC-AIMS II must be capable of: processing shipment information received from CONUS and theater origin shipping (i.e., General Services Administration (GSA), Defense Logistics Agency (DLA) Distribution Standard System, TC-AIMS II, etc.) and port systems; passing unit movement data to Service JOPES feeder systems; exchanging data with supply, finance, personnel and manpower, deploying unit and load planning systems; integrating with commercial carrier information systems to streamline ITO/TMO operations; tracking containers and pallets; reading and applying Automatic Identification Technology (AIT) systems data; interfacing with Global Transportation Network (GTN); and generating documentation for deploying and redeploying unit cargo and personnel, sustainment, and for retrograde cargo. TC-AIMS II must also provide theater transportation

management functions. TC-AIMS II supports the Chairman Joint Chiefs of Staff (CJCS) vision for 72-hour Time-Phased Force and Deployment Document (TPFDD); CJCS vision for web capable systems by FY04; Office of the Secretary of Defense (OSD) Management Reform Memorandum (MRM)-#15 initiative and DOD Information Assurance standards. A Joint Data Library (JDL) provided users with a common set of standard reference data used by the TC-AIMS II application. CD-ROM based training is required to support the use of the application.

1.3. Requirements Management. The Joint Requirement Office (JRO) manages the identification and grouping of detailed functional requirements, within the scope of the TC-AIMS II ORD and MNS, for development The JRO prioritizes these requirements and in coordination with the JPMO presents them to the Configuration Management Board (CMB) for approval. A General Officer Level Joint TC-AIMS II Management Board (JTMB) establishes the long-term executive vision, goals, and guidance for TC-AIMS II. It provides executive decision for requirement issues elevated by the CMB.

1.4. Development Strategy. TC-AIMS II software design will include Commercial Off The Shelf (COTS) software products, Government Off The Shelf (GOTS) software products, and developed software. TC-AIMS II software will conform with the JTA, DII/COE, and implement Shared Data Environment (SHADE). TC-AIMS II software will facilitate C2 security implementation for the TC-AIMS II system. TC-AIMS II will be developed incrementally. The initial increment will support basic capabilities necessary to plan, coordinate, and execute deployment or re-deployment. The second increment will optimize the basic unit move capabilities to provide a more robust and flexible technical architecture for rapidly adding the Incremental Development Packages (IDP) defined by the JRO and approved by the CMB. The optimized product also provides the N-tier architecture to make TC-AIMS II web-capable and adaptable for future technology changes. Concurrent with the second increment, an interim ITO capability will be provided by Co-hosting the existing USAF Cargo Movements Operational System (CMOS) on the TC-AIMS II server and providing an Application Programming Interface (API) to the Military Traffic Management Command (MTMC) CONUS Freight Management (CFM)-Electronic Transportation Acquisition (ETA) system. Subsequent software development will consist of one or more IDPs with supporting multi-media training capabilities and JDL additions. Capabilities to be incorporated include enhancements to the unit movement functions, a re-engineered ITO/TMO process into a single joint process and theater distribution. The hardware architecture consists of standalone workstations, regionalized servers or a hierarchy of "deployable" peer-to-peer connected servers networked throughout the operational chain of command, with the servers being connected to client workstations and laptop computers at staff and organizational unit levels. Each Component will be responsible for procuring and installing TC-AIMS II hardware in accordance with Component distribution plans. The TC-AIMS II JPMO will provide Components with the minimum hardware specifications required for the TC-AIMS II application.

1.5. Contracting Strategy Software development will be contracted through existing Indefinite Delivery Indefinite Quantity (IDIQ) Task Order contractors offering software engineering or professional technical services. Current work, under the Information Technology Omnibus Procurement (ITOP) Contract sponsored by the Department of Transportation, expires in September 2000. Potential sources for follow-on software development include Defense Enterprise Integration Services (DEIS), ITOP, or GSA IT Professional Services. Competition will be achieved through "fair opportunity" among awardees under these contracts. Additional contracted efforts for fielding, training, and program management support will use similar IDIQ sources.

1.6. Test Strategy. Each software increment developed will undergo a full range of software unit testing, integration testing, and software qualification testing. Software unit and integration testing will be

performed by the development contractor and witnessed by Government test activities. Software qualification test will be conducted by the Government to demonstrate that the increment under test meets the requirements and to demonstrate the integrity of previously delivered increments. The US Army Test and Evaluation Command (ATEC) will conduct TC-AIMS II operational test and evaluation. The initial unit move capability will undergo operational testing to support a fielding decision in support of the Chairman Joint Chiefs of Staff 72-hour TPFDD initiative. Subsequent operational testing will focus evaluating the effectiveness and suitability of one or more IDPs.

1.7. Management Strategy

1.7.1. Management Structure. The Under Secretary of Defense for Acquisition & Technology (USD(A&T)) designated the Army as the TC-AIMS II lead service in November 1995. Within the Army, the Director of Information Systems for Command, Control, Communications, and Computers (DISC4) provides acquisition oversight and technical direction. The Army Deputy Chief of Staff for Logistics (DCSLOG) is the TC-AIMS II proponent. The TC-AIMS II JPMO manages the development, testing, fielding, and initial post deployment software support. The Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I) chairs the TC-AIMS II IT-OIPT and is the Milestone Decision Authority (MDA). The Deputy Under Secretary of Defense for Logistics (DUSD(L)) is the OSD Principal Staff Assistant (PSA) for TC-AIMS II. The Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD(TP)) also chairs the JTMB which provides TC-AIMS II guidance and vision. The TC-AIMS II CMB defines, prioritizes, and approves IDPs for development and fielding. The USMC directs JRO efforts to define detailed functional requirements for each IDP and present IDPs to the CMB for approval. TC-AIMS II project manager reports through the PEO STAMIS to the Army DISC4. The TC-AIMS II project manager will chair Working-level Integrated Product Teams (WIPT) in the areas of testing, technical, security, cost, communications, and integrated logistics support.

1.7.2. Management Decisions. The January 1997 Acquisition Decision Memorandum (ADM) documents program initiation. Subsequent ADM documented IT-OIPT in-process reviews in July 1997 and November 1998. Milestone III will seek approval to field the TC-AIMS II unit move capability in support of the Chairman Joint Chiefs of Staff 72-hour TPFDD initiative. IT-OIPT will conduct bi-annual reviews to assess program status and to resolve issues, if any, elevated by one or more WIPTs.

PART 2

DETAILED STRATEGY

2. Development Strategy. TC-AIMS II will be developed in two phases. Phase I focuses on developing the basic unit move capability and fielding that capability to Component designated "early deployers" in support of the CJCS 72-hour TPFDD initiative. Phase I provides the technical architecture and functional foundation for Phase II. Phase II focuses on the incremental development and fielding of the remaining requirements.

2.1. Program Structure

2.1.1. Mission Essential Functions. ORD Key Performance Parameters are identified by (KPP)

2.1.1.1. (KPP) The system must be able to import, store, process, update, and export operational data volume in support of Major Theater War deployment scenarios and traffic management operations.

2.1.1.2. (KPP) TC-AIMS II must properly generate reports, forms, labels, tag data, Optical Memory Card (OMC) or SMART card data as listed in Table 4 below.

2.1.1.3. (KPP) The system must read from and write to designated AIT media

2.1.1.4. (KPP) The system must accept data, in time frames that support operational mission or task completion, from designated external systems.

2.1.1.5. (KPP) The system must provide output data, in the time frames that support operational mission or task completion, to designated external systems.

2.1.1.6. The system must automate movement planning processes as defined by information flows for matching TPFDD cargo & personnel detail with actual unit deployment lists, convoy movement data, organic equipment availability reports, and DTS cargo movement procedures.

2.1.1.7. The system must provide an automated ability to organize unit and organizational deployment list data into aircraft, ship, rail (including theater-specific rail car data), truck, and container load planning data, such as air cargo chalks, or ship team assignments. For rail and truck movements, it will be the automated tool to assist load planners in developing actual load plans. The system must automate movement coordination and control activities as defined by joint tactics, techniques, and procedures for movement control and convoy operations.

2.1.1.8. The system must automate traffic management functions and theater distribution as defined by DTS procedures for cargo and personnel movement. The activities that TC-AIMS II automates will be based on DOD standard and theater specific movement forms, freight bills, processes, information flows, electronic interfaces, and documentation used to tender tactical, organic, or commercial transportation support.

2.1.2. Hardware Strategy. The architecture of TC-AIMS II consists of standalone workstations, regionalized servers, or a hierarchy of "deployable" peer-to-peer connected servers networked throughout the operational chain of command, with the servers being connected to client workstations and laptop computers at staff and organizational unit levels. The TC-AIMS II program office will provide minimum and optimum hardware configurations for operating TC-AIMS II. Each Component will be responsible for procuring and installing TC-AIMS II hardware in accordance with Component distribution plans.

2.1.3. Software Development Strategy. TC-AIMS II software will be developed incrementally in two phases. Phase I consists of two software increments. The initial increment will support basic capabilities necessary to plan, coordinate, and execute deployment or re-deployment. The second increment will optimize the basic unit move capabilities to provide a more robust and flexible technical architecture for rapidly adding the IDP defined by the JRO and approved by the CMB. The re-engineered product also provides the N-tier architecture to make TC-AIMS II web-capable and adaptable for future technology changes. Concurrent with the second increment an interim ITO capability will be provided. During Phase II, subsequent software development will consist of one or more IDPs with supporting multi-media capabilities and JDL additions. Following are the major software capabilities to be developed as TC-AIMS II components to be developed, tested, and fielded.

2.1.3.1. Basic Unit Move capability provides capabilities to plan, coordinate, and execute unit movements. This includes maintaining equipment and personnel databases; organizing unit equipment and personnel list for air, rail, ship, truck, or container load planning; determining transportation requirements; and interfaces with designated supply, personnel, transportation, and C2 systems. This capability supports the CJCS vision for a 72-hour TPFDD and is the first increment of Phase I. This capability will replace Component unit move legacy systems.

2.1.3.2. The optimized Unit Move migrates Unit Move Core capability from an ASE 11.5 database, 2-Tier architecture, DII/COE level 2, C2 environment to an ASE11.9.2 database, 3-Tier architecture, DII/COE level 5, web capable foundation, C2 environment. Critical functional capabilities, as identified by Components, will be re-implemented to increase system effectiveness and performance, and to meet DII/COE and SHADE requirements, and improve automated C2 compliance. This is the second increment of phase I.

2.1.3.3. Co-hosting the current USAF CMOS applications with the re-engineered unit move capability and developing an API for CFM-ETA will achieve interim ITO/TMO capabilities

2.1.3.4. Enhanced Unit Move Capabilities will be added to the optimized Unit Move product during program Phase II based on CMB priorities and approval. The JRO will develop IDPs containing detailed definitions for implementation by the TC-AIMS II JPMO development contractor. As currently approved by CMB, capabilities that may produce one or more IDPs each are: Unit move management, Maritime Pre-position Force, vehicle fleet management, schedule and de-conflict convoys, convoy map graphics, calculate container/pallet requirements, use of SMART cards and additional system interfaces.

2.1.3.5. ITO/TMO Capabilities will be added to the optimized unit move product during program Phase II based on CMB priorities and approval. The JRO will develop IDPs containing detailed definitions for implementation by the TC-AIMS II JPMO development

contractor. Capabilities which may produce one or more IDP are: produce movement documents, Peacetime passenger processing, carrier performance, Navy CRIF, MRM-15 enhancements, Report of Shipments (REPSHIPS), transportation and installation activity schedules, carrier and ITO performance metrics, packaging instructions & reference tables, customs documents, container management, and additional system interfaces. This capability will replace Component ITO/TMO legacy systems.

2.1.3.6. Theater Operations Capabilities will be added to the re-engineered unit move product during program Phase II based on CMB priorities and approval. The JRO will develop IDPs containing detailed definitions for implementation by the TC-AIMS II JPMO development contractor. Capabilities which may produce one or more IDPs each are: Convoy scheduling, vehicle load planning, movement control team operations, mode operations, shipment management module, operational movement programming, and additional system interfaces. This capability will replace Component Theater Operations legacy systems

2.1.3.7. Multi-Media Training (MMT) and Extended Help provide both Computer-Based Training (CBT) for new TC-AIMS II users and extended Help capabilities for experienced users. The MMT CBT does not directly interact with other TC-AIMS II software and can run on multi-media configured PCs running Windows NT. The extended Help runs in conjunction with the TC-AIMS II application and, on user demand, provides additional Help information for many topics. Each major functional capability above will have its separate multi-media training.

2.1.3.8. JDL provides a central master repository of reference data used by the TC-AIMS II application. The JDL is not directly accessed or used by the TC-AIMS II end-user. The TC-AIMS II application database is pre-populated with the JDL reference data and periodically updated with change files produced by the JDL. The JDL is initially being developed concurrently with TC-AIMS II. It will transition to another agency to complete and maintain the JDL for use by all defense transportation systems.

2.1.4. System Interface and Interoperability Considerations. TC-AIMS II will be fully integrated with port operations systems and inter-operable with other automated transportation, logistics, operations, personnel, and finance systems. The system will be in compliance with GCSS and DII/COE standards. TC-AIMS II must comply with applicable information technology standards contained in the JTA.

2.1.5. Security Considerations. TC-AIMS II will operate at the unclassified level and will contain multiple levels of access control to ensure sensitive information is not compromised. TC-AIMS II will receive or process information according to guidelines set forth by DOD and Components, including the protection of data aggregation at a higher level as necessary.

2.2. Logistics Support.

2.2.1. Hardware Maintenance. Each Component is responsible for providing maintenance support for their Service specific hardware procured in support of TC-AIMS II in accordance with applicable Component directives.

2.2.2. Post Deployment Software Support.

2.2.2.1. Customer Support. Customer support will be provided through the USAF Standard Systems Group's Field Assistance Branch. Initial services provide below may be expanded to include configuration management and software distribution.

2.2.2.1.1. Tier I (Electronic Help Desk). This tier consists of a diagnostic database and will provide resolution to known problems. Customers with problems will first contact the Electronic Help Desk via E-mail or the TC-AIMS II Website. The Electronic Help Desk will use a Case-Based Reasoning System to provide an automated interface with the customers. This first tier will resolve the most basic problems or identified systemic problems.

2.2.2.1.2. Tier II (Direct Assistance). Tier II will be used after the customer has determined that the efforts from Tier I were unsuccessful in resolving the problem. The customer may either contact the Help Desk directly via telephone or send in a Problem Report (PR) via e-mail or FAX. The Help desk personnel will attempt to provide direct resolution as soon as possible. It is anticipated that this tier will resolve the majority of software, hardware, and functional problems.

2.2.2.1.3. Tier III (Developer Support). This tier will be used when the Help Desk personnel are unable to provide problem resolution. Help Desk personnel will document and log in the Problem Report and then submit the Problem Report to the appropriate subject matter experts or proponent located with the developer, contractor or supplier.

2.2.2.2. Software Maintenance will be limited during the IDP development timeframe to repairing category 1 and 2 problem reports. These fixes will be distributed either as part of next scheduled IDP or as an interim change package. Request for enhancements, problem reports classified as enhancements, and modifications will be referred to the CMB with a recommendation for inclusion with a specific IDP. After the IDP development period, fixes to category 1 and 2 problem reports will continue to be distributed as interim changes packages. Category 3, 4, and 5 problems reports and other request for system enhancements and modifications will be included in periodically scheduled system change packages based on prioritization of the CMB.

2.3. Manpower and Personnel Integration (MANPRINT) Strategy.

2.3.1. Training Strategy. The developing contractor will prepare programs of instructions with supporting lesson plans based on the capabilities of each software increment for two specific courses - users and system/database administrators (SA/DBA). These course materials will be provided to Component schools for the development of Component specific training. The development contractor will teach each course as a part of Instructor and Key Personnel (IKP) training and to users during initial fielding. Additionally the development contractor will provide a multi-media training (MMT) capability on CD-ROM. The MMT will be based on the course materials prepared for the user and SA/DBA course. The MMT and other course materials will be updated concurrent with each delivered IDP. MMT materials such as storyboards, scripts, and videos will be made available to each Component for production of Component specific MMT. Each component is responsible for developing specific institutional, unit, and sustainment training in accordance with Component policies.

2.3.2. Manpower and Personnel Strategy. The introduction of TC-AIMS II does not impact the military or civilian manpower of any Component. New Military Occupational Specialties are

not required. TC-AIMS II may require additional skill identifiers in accordance with Component policies.

2.3.3. Human Factors Strategy. The principal human factors consideration will be the Human Computer Interface that will be developed in accordance with established DOD directives and standards. The program office will provide an independent Human Factors Engineering Assessment to the developer for design consideration. Human factors elements incorporated as part of all Government testing.

2.4. Test Strategy. Types of testing are included in the TC-AIMS II test program - developer (contractor) testing; Government qualification testing; and operational testing. Qualification and operational testing will be combined as much as possible to reduce test redundancy and testing schedules. The Government will witness developer testing to the maximum extent possible to ensure adequacy of developer testing and to reduce the lag time between developer and qualification testing.

2.4.1. Developer testing. The developer will conduct three levels of testing for each IDP. Testing of each IDP will ensure that the requirements in the IDP perform as specified without degradation to previously delivered increments.

2.4.1.1. The developer will conduct unit integration and testing of two or more software components to ensure that the resulting software components work together as intended. The process continues until all software in each Computer Software Configuration Item (CSCI) is integrated and tested. The final stage of this process is CSCI integration test. The JPMO IV&V team will verify test results.

2.4.1.2. CSCI qualification testing by the developer demonstrates to the JPMO that the software meets the requirements of the software and interface specifications. Test results will be verified by the JPMO IV&V team

2.4.1.3. CSCI/(Hardware Configuration Item) HWCI integration and testing demonstrates to the JPMO that each CSCI and related HWCI work together as intended. This process continues until all CSCI and HWCI are integrated and tested. The JPMO IV&V team will verify test results. The last stage of this process is developer-internal system test. The Government will witness the developer internal system test.

2.4.2. Software Qualification Testing will be conducted by the JPMO to demonstrate that the system meets the specifications and provides the data required by the independent developmental evaluator. Test results will be the basis for the Independent Evaluation Report presented to the Director, Test, System Engineering & Evaluation (DTSE&E) prior to a milestone decision.

2.4.3. ATEC will determine TC-AIMS II operational suitability and effectiveness. The Critical Operational Issues and Key Performance Parameters documented in the ORD, as they relate to the increment under test will be the basis for evaluating the test results. After operational testing of the first increment and CMB prioritization of IDPs, ATEC and the JPMO will develop a subsequent schedule for operationally testing IDPs. Each operational test period will test one or more IDPs. However, the interval between operation test periods will not exceed two years.

3. CONTRACTING STRATEGY

3.1. Competition

3.1.1. Development. Software development will be contracted through existing Indefinite Delivery Indefinite Quantity Task Order contractors offering software engineering or professional technical services. Current work, under the ITOP Contract sponsored by the Department of Transportation, expires in September 2002. However, the maximum dollar threshold will be reached in fiscal year 2001. Potential sources for follow-on software development include DEIS, ITOP, or GSA IT Professional Services. Competition will be achieved through "fair opportunity" among awardees under these contracts.

3.1.2. Commercial Off The Shelf software products incorporated as part of the TC-AIMS II applications or TC-AIMS II development environment will be procured from existing IDIQ contracts, enterprise licensing agreements or GSA schedules. Enterprise licensing agreements will be used to the maximum extent possible except where better pricing can be obtained through competition or negotiation.

3.1.3. Hardware. Hardware will be procured IAW Component policies. The hardware requirements published by the program office establish the minimum acceptable specifications for hardware designated to operate TC-AIMS II.

3.1.4. Additional contracted efforts for fielding support and program management support will use similar IDIQ sources.

3.2. Best practices. Contracts for software development will require development practices conforming to MIL-STD 498 and its commercial equivalent, ISO 9000. Additionally, competing contractors must be able to demonstrate that the specific development team has a Software Engineering Institute (SEI) Software Capability Maturity Model (SW CMM) Level 2 or higher rating., or provide a reasonable plan for certification. Source selection criteria will include software capability evaluations and past performance with programs implementing The Airlie Software Council and Government-Industry-University Software Alliance (GIUSA) best practices.

3.3. Contractor Cost & Performance Measurement. A formal earned value management reporting requirement will be included in all development contracts. The earned value reporting system will be augmented by a full range of software metrics with applicable management ranges and thresholds for transitioning between development phases.

4. MANAGEMENT STRATEGY

4.1. Participants.

4.1.1. Joint Program Management Office. The JPMO manages the design, development, testing, fielding and logistics support planning for TC-AIMS II. The Project Manager reports through the PEO STAMIS and DISC4 to the Army Acquisition Executive (AAE). The program office is staff by the participating components in accordance with the May 1997 Joint Staffing MOA and Army policies for program office staffing. The program office staff will be augmented by matrix support from various Army activities and program support contractors.

4.1.2. PEO STAMIS provides management and acquisition oversight of the JPMO and provides representation to the JTMB and CMB.

4.1.3. Army DCSLOG. The Army DCSLOG is the Army staff proponent for TC-AIMS II and is the focal point for Army lead service responsibilities. The DCSLOG represents the Army on the JTMB and CMB. The DCSLOG will be the user representative for decisions delegated to the PEO STAMIS.

4.1.4. Army Director for Information Systems, Command, Control, Communications and Computers (DISC4). The DISC4 provides technical and acquisition oversight through the PEO STAMIS to the JPMO TC-AIMS II. DISC4 exercises Army acquisition management responsibilities for information and C4 systems for the AAE.

4.1.5. ASD(C3I) is the TC-AIMS II milestone decision authority and chairs the IT-OIPT.

4.1.6. ADUSD(TP) exercises the DUSD(L) OSD PSA responsibilities for TC-AIMS II. Additionally, ADUSD(TP) represents the user community during IT-OIPT sessions and chairs the JTMB which provides overall vision and broad guidance for development and implementation. Each Component, the CJCS, USTRANSCOM, PEO STAMIS and TC-AIMS II JPMO provides representation to the JTMB.

4.1.7. USTRANSCOM J-4 represents the TCCs at the JTMB and chairs the TC-AIMS II CMB.

4.1.8. CJCS J-4 represents the CJCS and CINCs at the JTMB and CMB.

4.1.9. ATEC exercises the Army operational test and evaluation responsibilities to plan & conduct TC-AIMS II operational test, report results and provide evaluations of effectiveness and suitability.

4.1.10. The Army Cost and Economic Analysis Center provides an independent assessment of the TC-AIMS II Economic Analysis and develops the Component Cost Analysis for coordination with other Components prior to approval by the Army Chief Financial Officer.

4.1.11. USAF and USN provide representation to the JTMB, CMB, and JRO to represent their respective user communities. Each Component is responsible for funding, procuring, and installing their respective hardware needed to operate TC-AIMS II. USAF and USN provide JPMO staffing IAW the Joint Staffing MOA.

4.1.12. USMC represents their respective users communities at JTMB, CMB, and JRO sessions. USMC is responsible for the operation of the JRO. USMC is responsible for funding,

procuring, and installing its hardware needed to operate TC-AIMS II. USMC provides JPMO staffing IAW the Joint Staffing MOA.

4.1.13. Requirements Management. The approved MNS and ORD define the TC-AIMS capabilities and performance threshold and objectives. The JTMB, CMB, and JRO contribute to the overall requirements analysis, detailed definition, and prioritization of requirements for implementation.

4.1.13.1. Joint Requirement Office (JRO). The JRO maintains the Joint Requirement Database (JRD) that contains and requirements identified by the components, CINC, or directed initiatives within the scope of MNS and ORD. The JRO recommends to the CMB the scope of one or more IDPs in the areas of unit move, installation transportation operations, and theater transportation operations. The JRO develops requirement statements for each CMB designated IDP. Requirement statements will be in sufficient detail to hand off to the developing contractor to complete requirements analysis and to conduct the requirements review. JRO provides to IDPs to the JPMO for cost and schedule assessment. The JRO presents each IDP, with JPMO cost and schedule assessment, to the CMB for approval.

4.1.13.2. Configuration Management Board. The CMB is an O6 level panel that prioritizes IDPs for development by the JPMO and provides the priorities for the JRO to develop detailed functional requirement statements for each IDP

4.1.13.3. Joint TC-AIMS II Management Board (JTMB). The JTMB is a flag rank executive panel that provides long-term executive vision, goals, and guidance for TC-AIMS II. It provides executive decision for requirement issues elevated by the CMB. The TC-AIMS II program manager presents periodic program status and assessments of developer performance.

4.2. Oversight and Milestone Decision Review Strategy.

4.2.1. The January 1997 Acquisition Decision Memorandum (ADM) documents program initiation and authorizes establishing 8 Beta sites to assist in requirement refinements. Subsequent ADM document IT-OIPT in-process reviews in July 1997 and November 1998. The November 1998 ADM authorizes establishing a 9th Beta site in EUCOM.

4.2.2. The JPMO will seek MDA approval for TC-AIMS II release 3.01 hardware procurement prior to the TC-AIMS II fielding decision. The quantities will be limited to those required by each Component for the first six months fielding in support of the CJCS 72-hour TPFDD initiative.

4.2.3. Milestone III decision will seek approval to field the TC-AIMS II release 3.01 unit move capability in support of the Chairman Joint Chiefs of Staff 72-hour TPFDD initiative.

4.3. Working Level Integrated Product Teams (WIPTs). The JPMO office initially established WIPTs in the areas of cost, testing, integrated logistics support, security, communications, requirements, and technical to act as advisory bodies to the PM and direct communications between the program office and oversight and review process.

4.3.1. Each WIPT focuses on topics within its designated area to develop strategies, plans, review progress, tailor documents requirements in support of milestone reviews, resolve or elevate issues.

4.3.2. WIPTs are chaired by the TC-AIMS II PM or designated representative. Each Component is represented on each WIPT. Other program participants may be represented at one or more of the WIPTs within their organization's area of responsibility or oversight. OSD staff activities, Joint Staff activities, DISA and Component activities may be represented on one or more WIPTs as appropriate.

4.3.3. WIPT members are responsible for obtaining organization principals' concurrences on applicable issues and documentation. Members must be empowered by their respective leadership to speak for their leadership in the decision making process.

4.4. Cost, Schedule, and Performance Risk Management. The TC-AIMS II risk management process requires corporate acceptance of risk as a major program consideration and formal methods for identifying, monitoring, and managing risk. Risk associated with technical, supportability, programmatic, cost, and schedule will be identified over the full TC-AIMS II life cycle. Risk reduction will be a consideration in cost/performance trade-offs. Specific risk or risk areas will be considered as candidates for cost as an independent variable. The PM will use the "top ten" risks as a routine part of reviews with the IT-OIPT and the JTMB.

4.5. Cost As An Independent Variable (CAIV). CAIV based performance objectives will be developed in the areas of software development, hardware acquisition, software maintenance, and system fielding. These areas are based on analysis of the major cost driver areas. These cost objectives will be specified in acceptable ranges in the Acquisition Program Baseline.

4.5.1. Cost/Performance Trade-offs. A Cost/Performance trade-off analysis was conducted by the USTRANSCOM during its selection of Transportation CIM migration systems. The TC-AIMS II approach, based on this analysis, was approved by DUSD(L) and ASD(C3I) in March 1995 and July 1995 respectively. Additional cost/performance trade-offs may be considered to establish appropriate ranges of the CAIV based performance objectives.

4.5.2. Cost Management Incentives. Incentives will be used as a part of the software development contracting effort. Uncertainties associated with detailed software requirements make fix price contracting unlikely. Incentive and Award Fee cost type contracts will be the principal vehicles. Cost and risk sharing will be incorporated into each contract to the maximum extent possible.